REMARKS

In the Office Action mailed November 15, 2004, the Examiner noted that claims 1-13 were pending, and rejected claims 1-13. Claims 1-13 remain pending for reconsideration which is requested. The Examiner's rejections are traversed below.

Pages 2-10 of the Office Action rejects all claims under 35 U.S.C. § 103 over various combinations of Shimura, Burkhard, Lee, Amundsen and Lepage with Shimura being the primary reference, Burkhard being the secondary reference and the remaining references being tertiary.

Shimura discusses a system that generates a finite automaton and then uses the automaton to perform a search:

> A range-conditional character string retrieving method and system capable of performing retrieval of a numerical value from a character string at an increased speed by shortening the time taken for generation of finite automaton, range condition retrieval for a character string containing admixedly numeric characters and non-numeric characters such as alphabetic letters and highly intelligent retrieval of a numerical value with designation of preceding and succeeding characters.

(See Shimura Abstract)

> The present invention relates in general to a range-conditional character string retrieving method and system which are capable of searching or retrieving a numerical value represented by a numeric character string by comparing or collating a value of interest with a given condition in information processing system such as a database system, a document filing system or the like for processing information or data which contains non-numeric data. More particularly, the present invention is concerned with range-conditional character string retreiving method and system suited profitably for a full-text search of document data through a range-conditional character string retrieval technique.

(See Shimura, col. 1, lines 17-29)

> FIG. 1 is a functional block diagram showing a general arrangement of a range-conditional character string retrieving system 300 according to an embodiment of the present invention which is arranged to perform search or retrieval of a character string containing a numerical value or values (represented by a numeric character string or strings).

(See Shimura, col. 13, lines 48-54)

In contrast the present invention (see claims 1-3 and 13) is directed to a system and method of generating an automaton and using the automaton for sorting, a distinctly different activity than searching. There is no teaching or suggestion in Shimura that the automaton of Shimura can be used to perform sorting.

Burkhard discusses an improved radix sorting method. Burkhard does not discuss, much less teach or suggest, the use of an automaton to perform a sort. In addition, the Examiner does not provide an explanation or a rational concerning how Burkhard would be combined with Shimura. It is submitted that that they cannot be combined.

The radix sort of Burkhard improves over the prior art by not requiring that all of the variable length data strings/records to be sorted be converted into the same data type before they are sorted. That is, native data types of variable length are sorted. Because of this, the data to be sorted needs to be read in it's native format and length each time a sort operation (a movement of the record in the record list) is performed using a sort plan that indicates how each bit in the record/string is to be treated. That is, each string/record in the list of strings/records to be sorted is read and examined numerous times. In contrast, by using an automaton, the present invention reads each record only once. That is, the present improves over the combination of Shimura and Burkhart even if it is proper to combine Shimura and Burkhart.

Lee, Amundsen and Lepage add nothing to Shimura and Burkhart with respect to using an automaton to perform sorting.

It is submitted that the invention of the claims distinguishes over the prior art and withdrawal of the rejection is requested.

The dependent claims depend from the above-discussed independent claims and are patentable over the prior art for the reasons discussed above. The dependent claims also recite additional features not taught or suggested by the prior art. For example, claim 6 and 12 emphasize that the automaton uses an order table. the prior art does not teach or suggest such. It is submitted that the dependent claims are independently patentable over the prior art.

It is submitted that the claims are not taught, disclosed or suggested by the prior art. The claims are therefore in a condition suitable for allowance. An early Notice of Allowance is requested.

If any further fees, other than and except for the issue fee, are necessary with respect to this paper, the U.S.P.T.O. is requested to obtain the same from deposit account number 19-3935.

Respectfully submitted,

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